

(12) **United States Patent**
Farris

(10) **Patent No.:** **US 9,474,400 B2**
(45) **Date of Patent:** **Oct. 25, 2016**

(54) **COMBINATION BRACKET AND GARMENT HANGER SYSTEM AND ASSEMBLY MOUNTABLE TO AN OVERHEAD TRIM PIECE ASSOCIATED WITH A DOORWAY SUCH AS FOR ROTATABLY SUPPORTING A GARMENT DURING STEAM CLEANING**

(71) Applicant: **Anthony C. Farris**, Canton, MI (US)

(72) Inventor: **Anthony C. Farris**, Canton, MI (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 753 days.

(21) Appl. No.: **13/785,941**

(22) Filed: **Mar. 5, 2013**

(65) **Prior Publication Data**

US 2014/0027597 A1 Jan. 30, 2014

Related U.S. Application Data

(60) Provisional application No. 61/676,687, filed on Jul. 27, 2012.

(51) **Int. Cl.**
A41D 27/22 (2006.01)
A47G 25/02 (2006.01)
(Continued)

(52) **U.S. Cl.**
CPC **A47G 25/02** (2013.01); **A47G 25/0607** (2013.01); **A47G 25/32** (2013.01); **A47G 25/4023** (2013.01); **A47G 25/68** (2013.01);
(Continued)

(58) **Field of Classification Search**
CPC **A47G 25/0607**; **A47G 25/0614**; **A47G 25/0621**; **A47G 25/0628**; **A47G 25/065**; **A47G 25/32**; **A47G 25/40**; **A47G 25/62–25/627**; **A47G 25/66–25/70**; **A47G 25/4046**; **A47G 25/4061**; **A47G 25/4053**

USPC 223/89, 90, DIG. 4, 91, 96
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

82,666 A * 9/1868 Wells D06F 59/08 38/102
361,260 A * 4/1887 Brinton D06F 59/08 223/63

(Continued)

FOREIGN PATENT DOCUMENTS

GB 191512935 A * 7/1916 A47G 25/68
GB 259774 A * 10/1926 A47G 25/68

(Continued)

OTHER PUBLICATIONS

International Search Report—International application No. PCT/US 2013/051321.

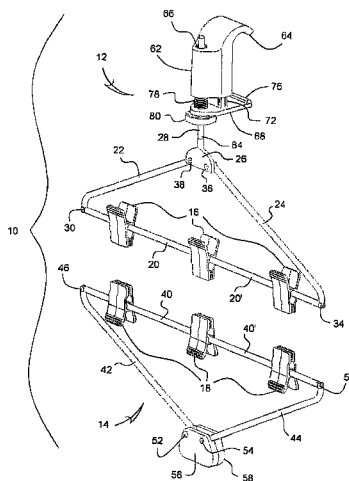
Primary Examiner — Nathan Durham

(74) *Attorney, Agent, or Firm* — Dinsmore & Shohl LLP; Douglas J. McEvoy

(57) **ABSTRACT**

A hanger system including at least an upper assembly affixed to a vertically suspending location and which, in combination with a lower assembly, supports and tensions a garment therebetween to assist in either or both of de-wrinkling or steam assisted cleaning of the garment. The upper assembly includes vertically repositionable upper and lower support surface (e.g. door jamb) engaging portions. A stem extends downwardly from the upper assembly and is linearly repositionable in order to adjust a height of a garment engaged by clips defined upon a lower width extending member of a triangular frame supported by the stem. The lower assembly includes an inverted triangular design with additional clips for securing lower edge extending locations of the garment and which is also weighted to facilitate the steam cleaning and de-wrinkling process.

14 Claims, 16 Drawing Sheets



(51)	Int. Cl.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
------	-----------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

* cited by examiner

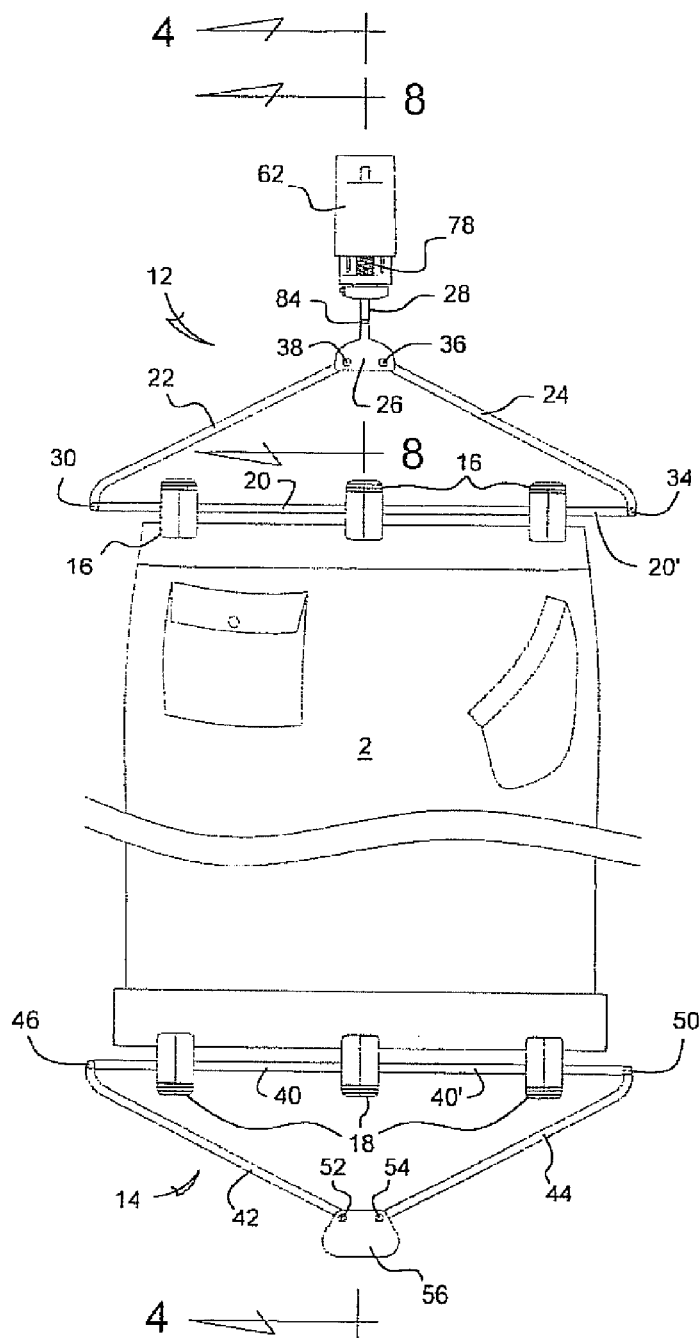


FIGURE 2

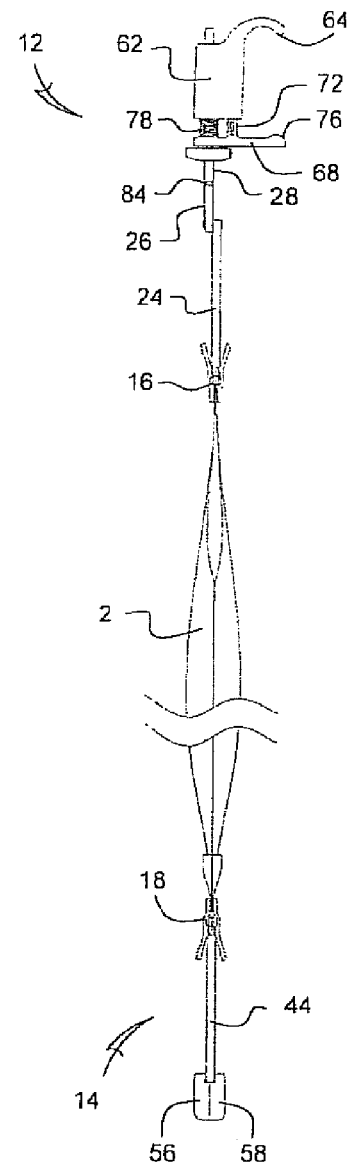


FIGURE 3

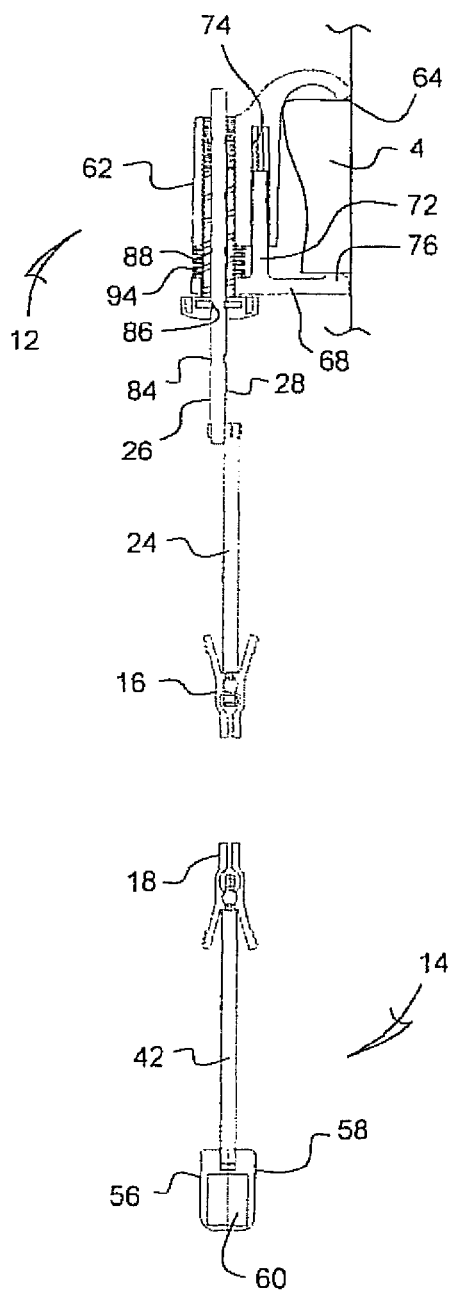


FIGURE 4

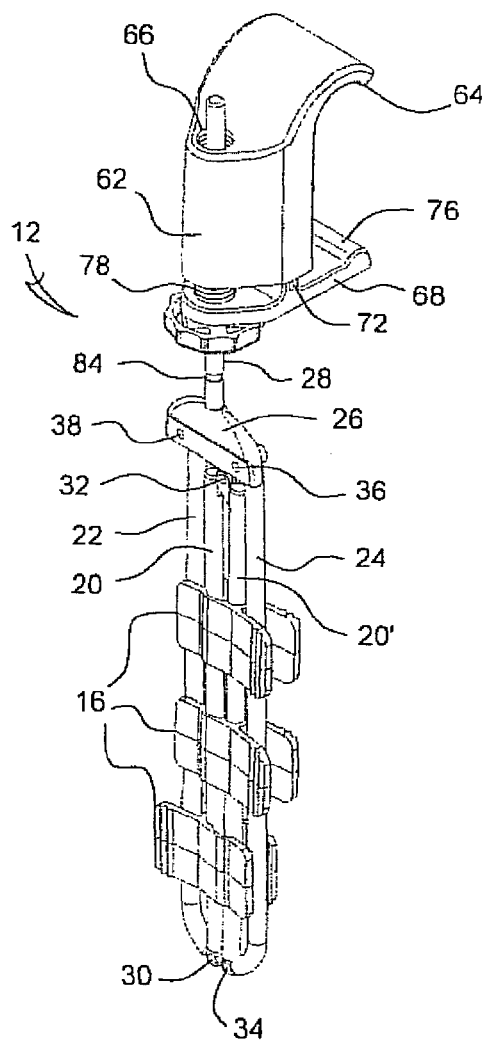


FIGURE 5

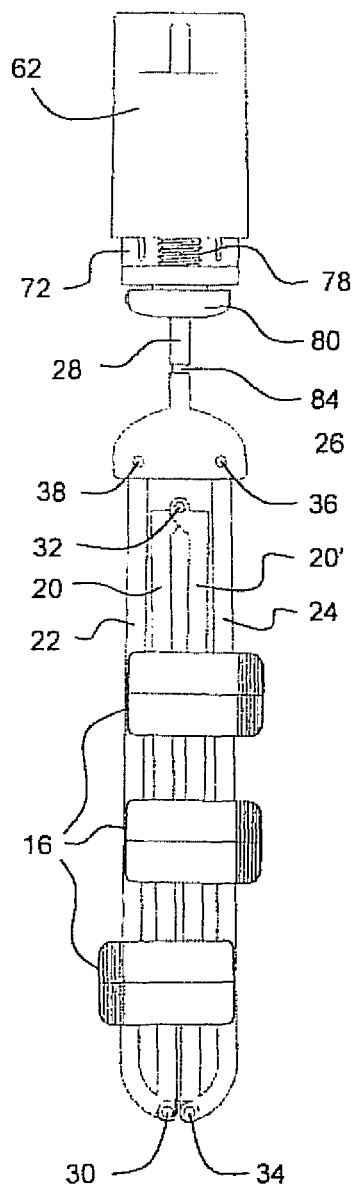


FIGURE 6

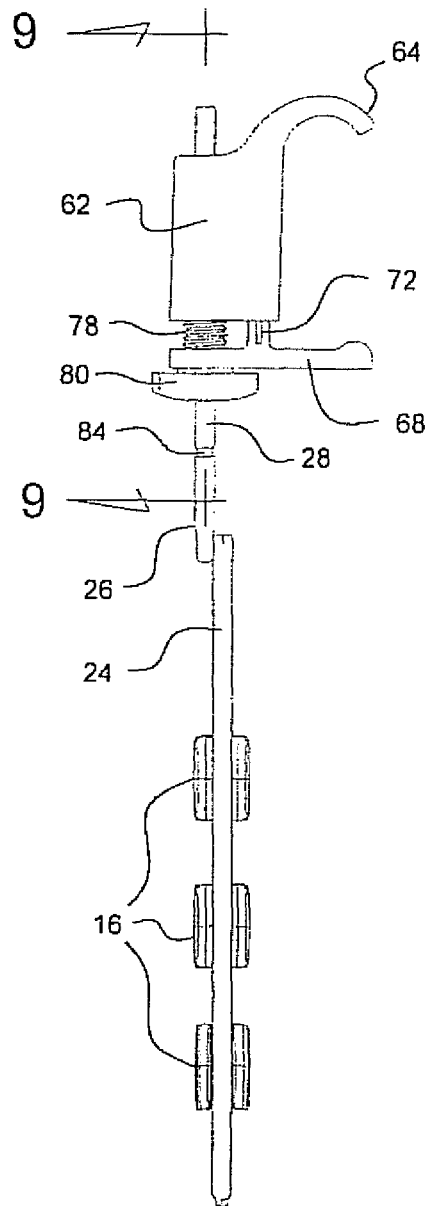


FIGURE 7

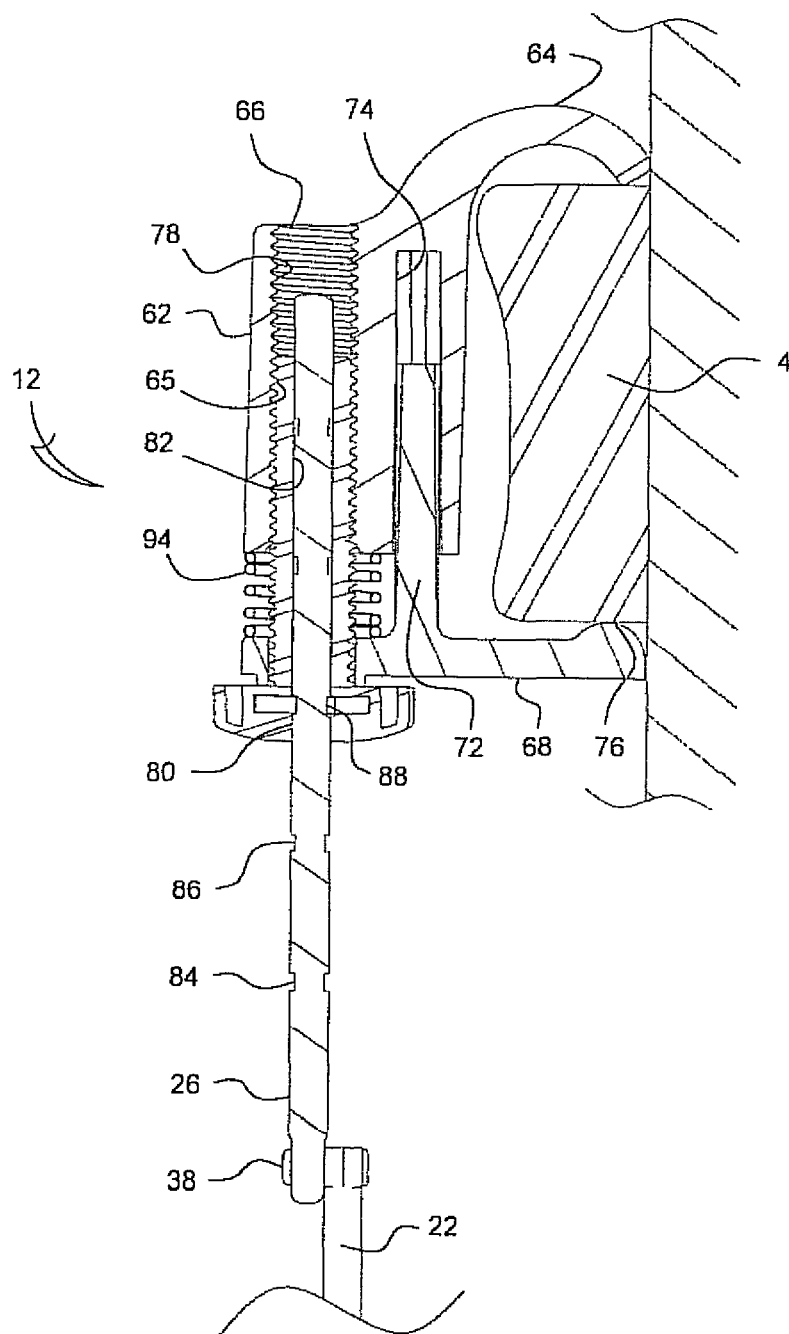


FIGURE 8

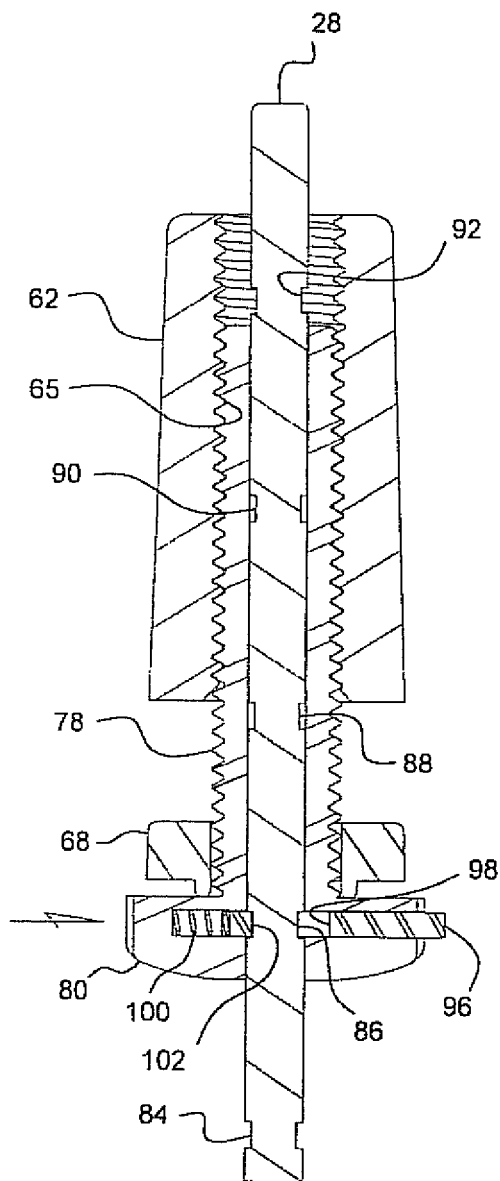


FIGURE 9A

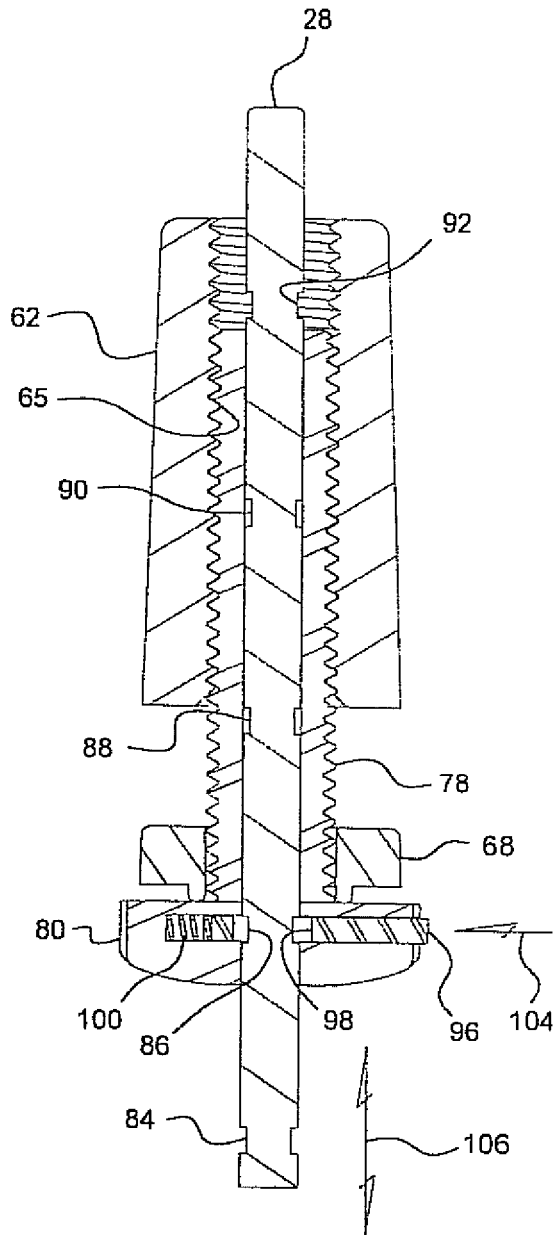


FIGURE 9B

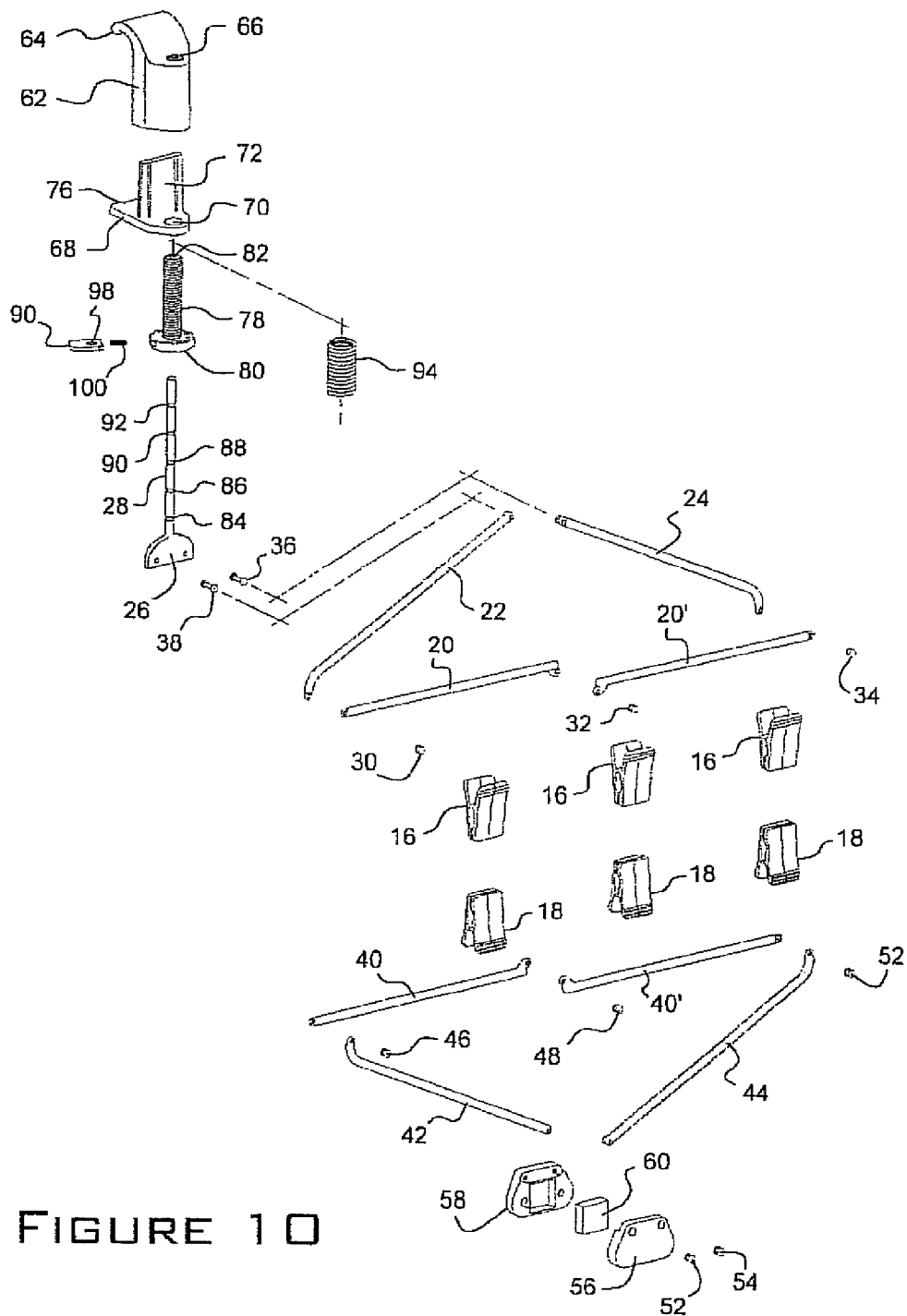


FIGURE 10

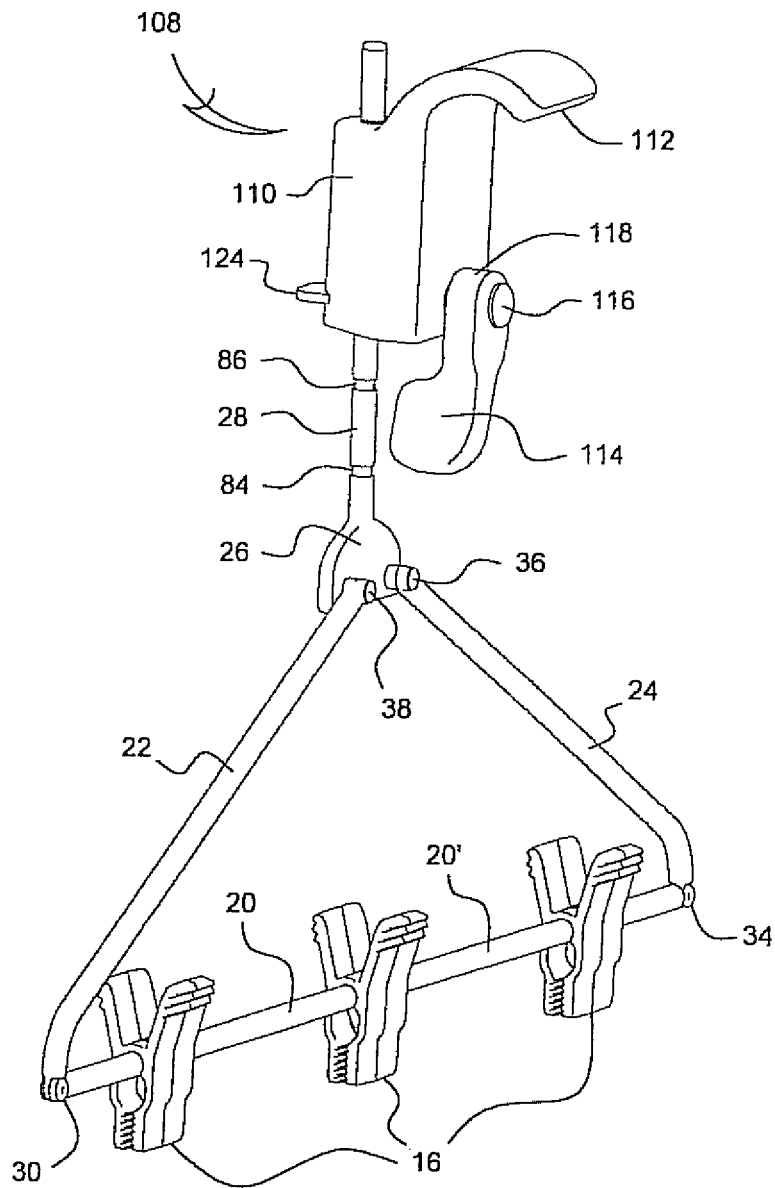


FIGURE 11

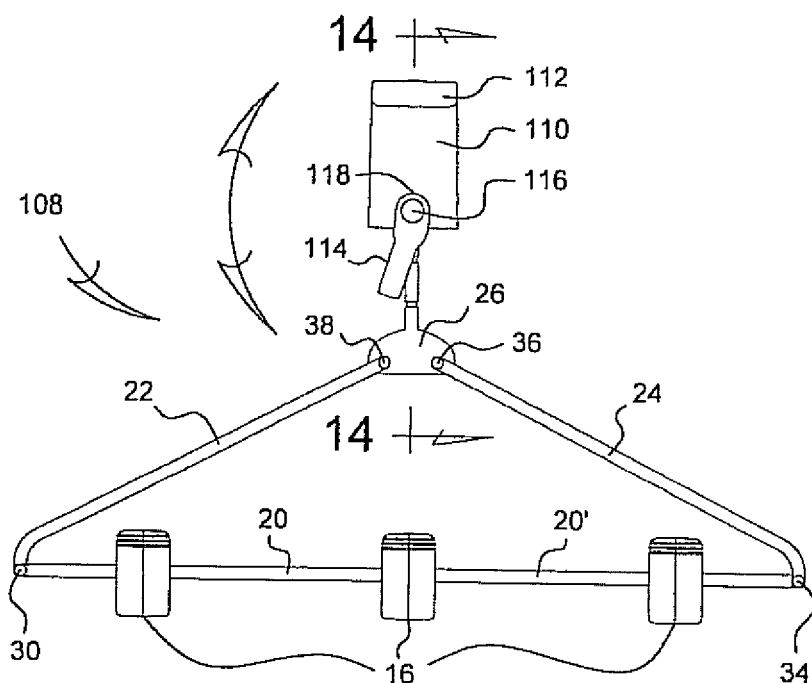


FIGURE 12

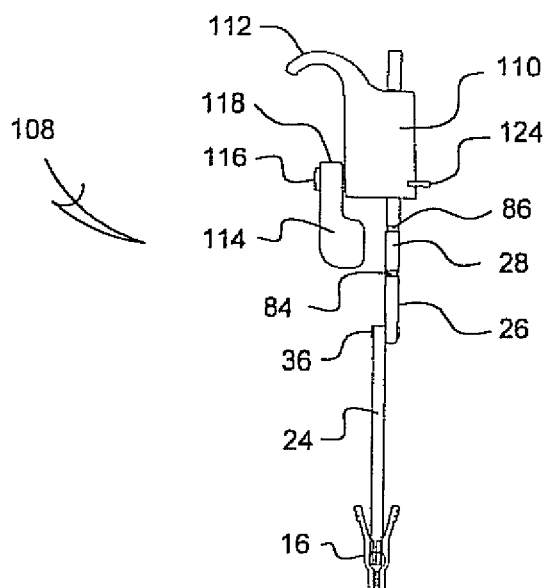


FIGURE 13

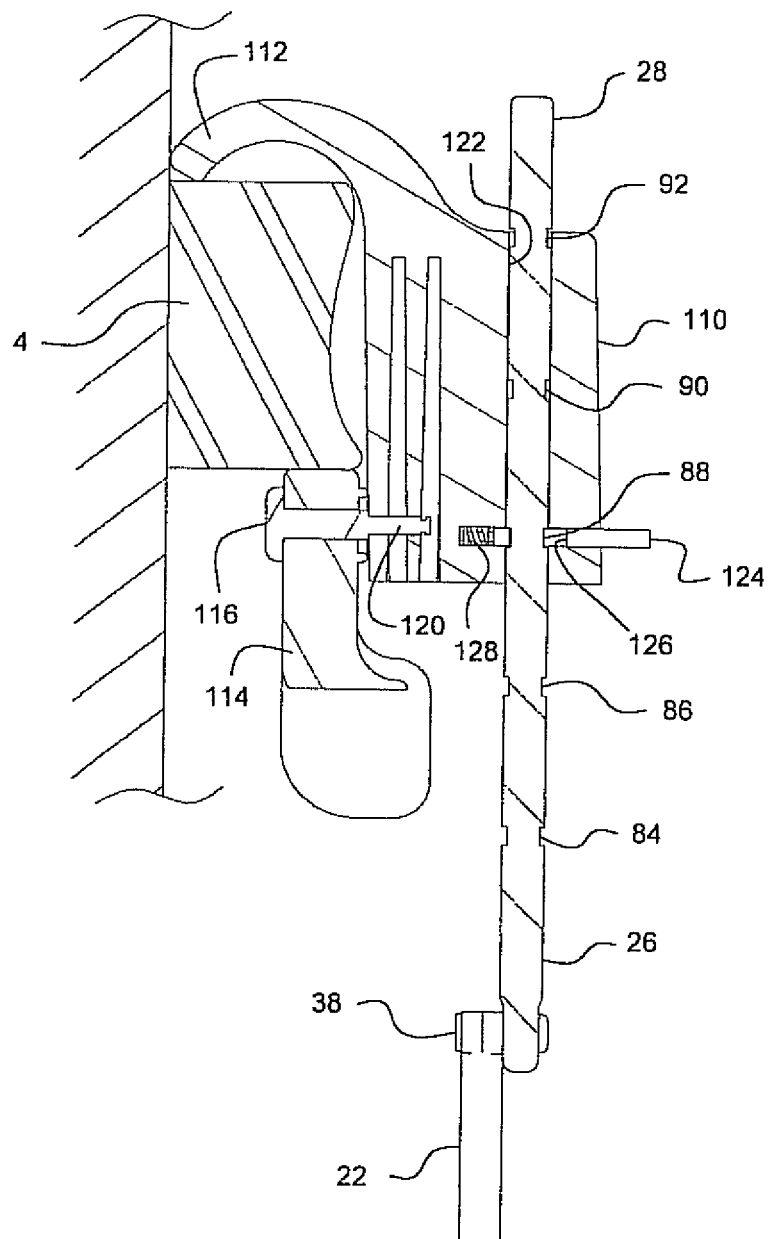


FIGURE 14

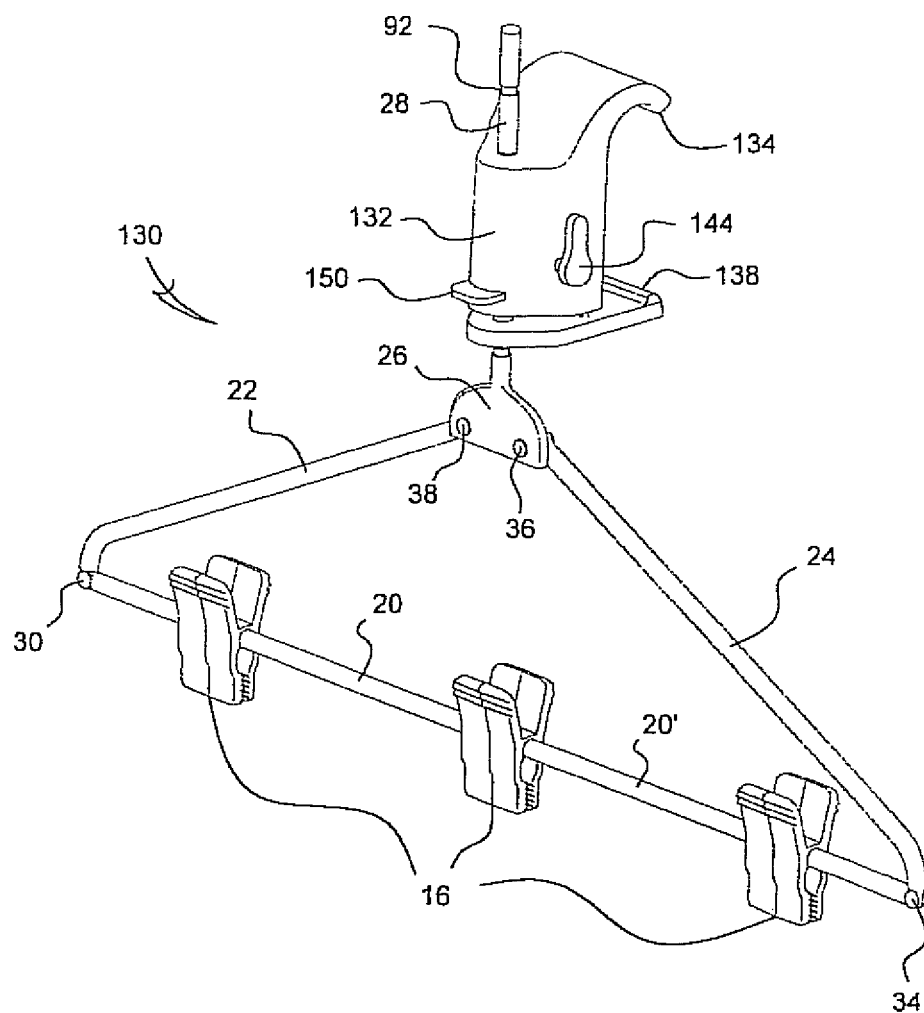


FIGURE 15

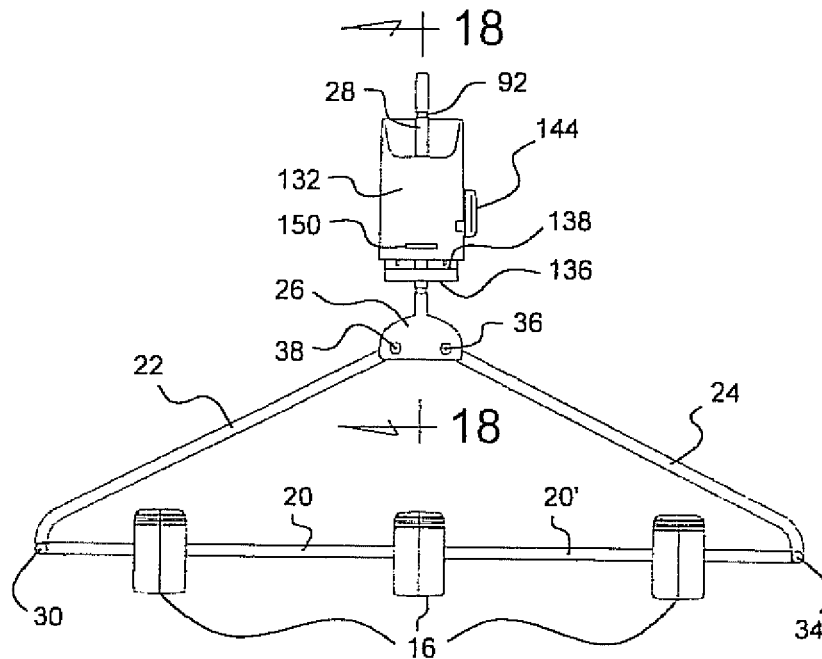


FIGURE 16

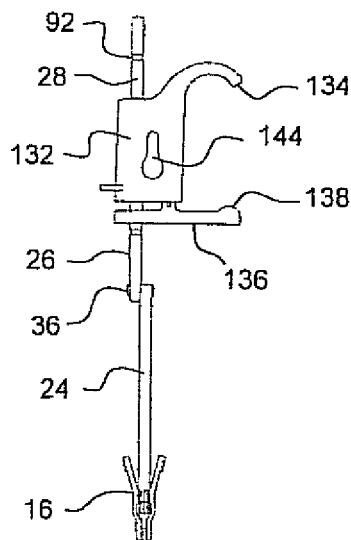


FIGURE 17

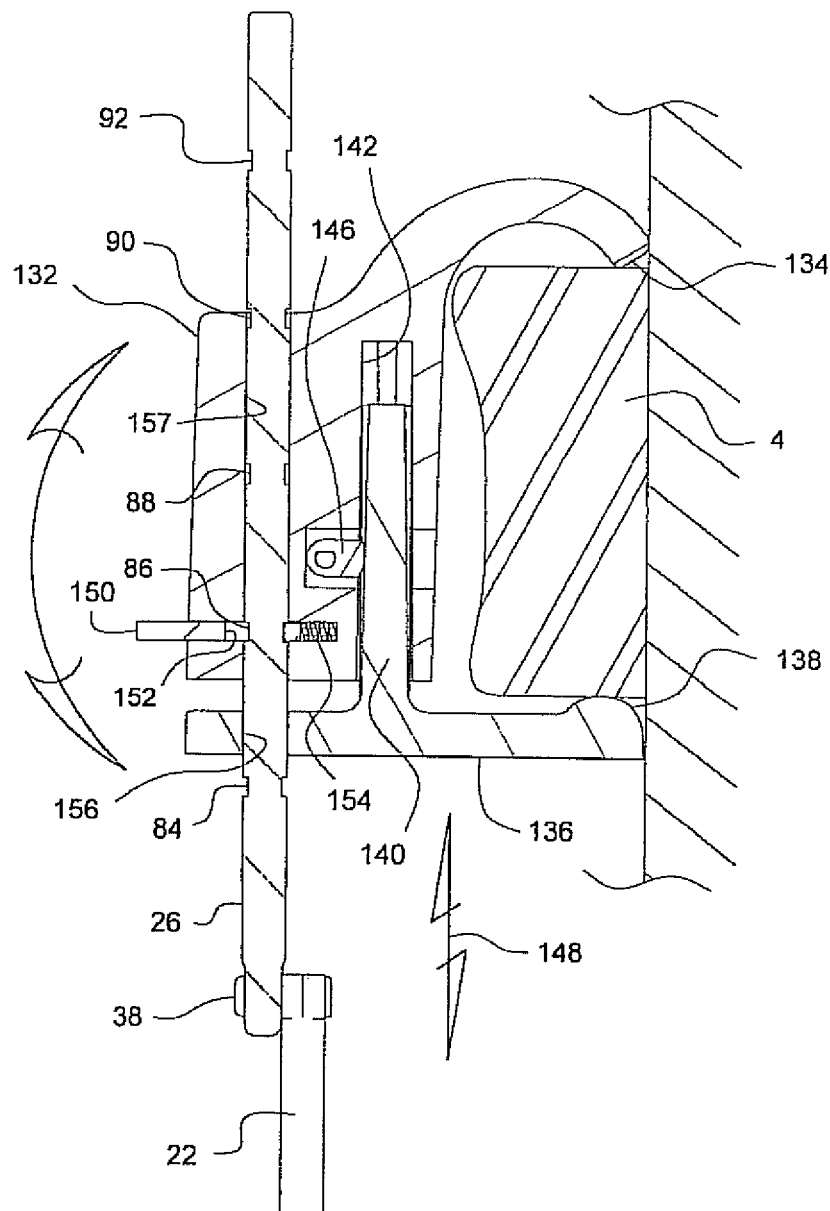


FIGURE 18

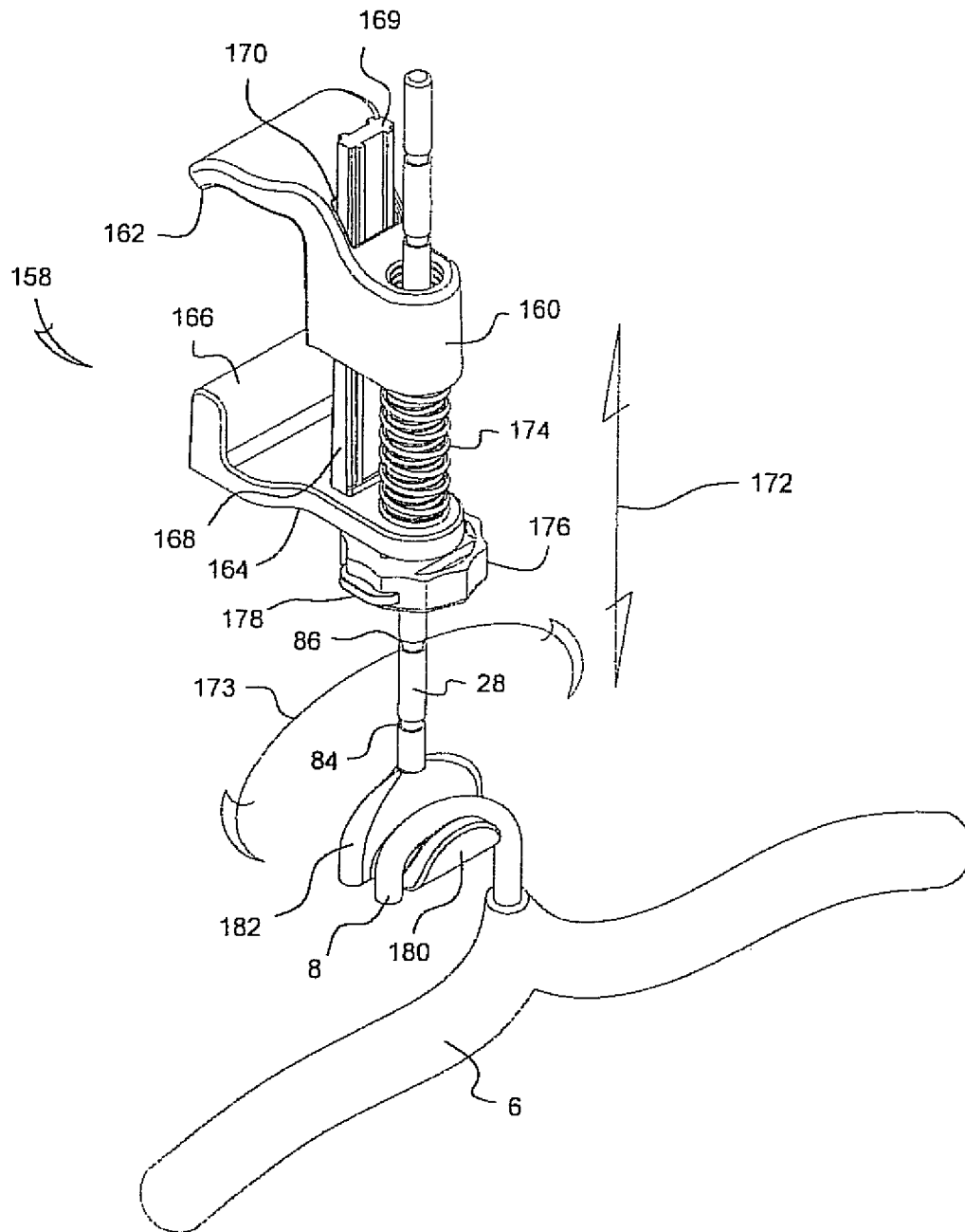
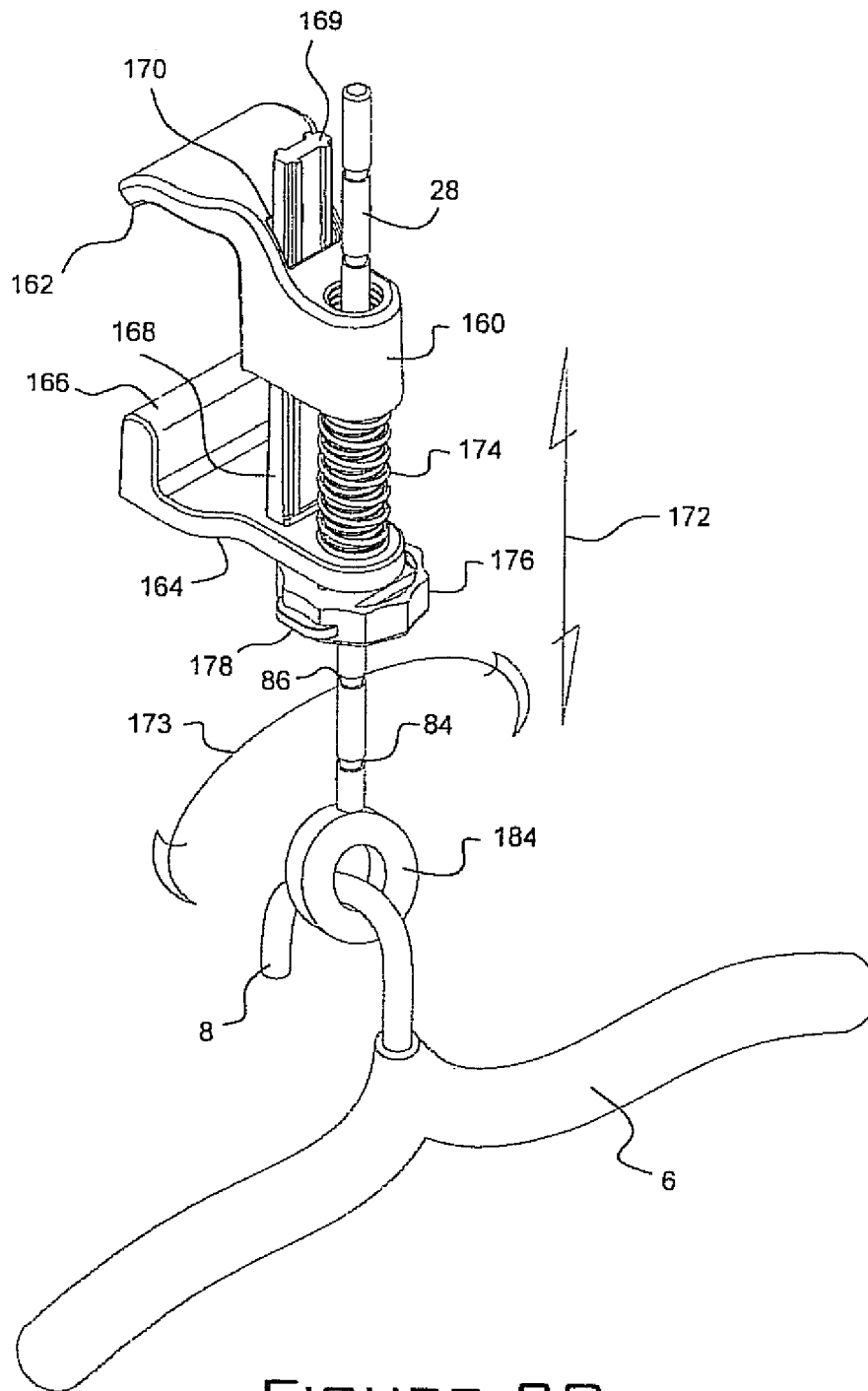


FIGURE 19



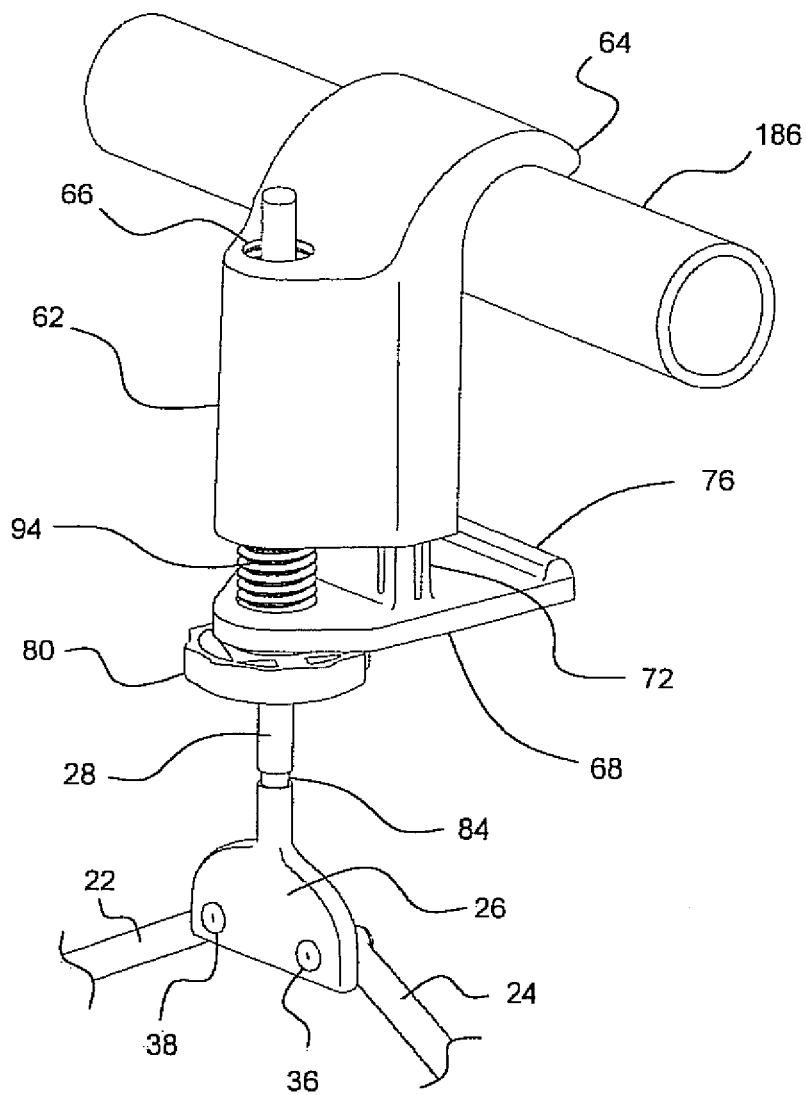


FIGURE 21

1

**COMBINATION BRACKET AND GARMENT
HANGER SYSTEM AND ASSEMBLY
MOUNTABLE TO AN OVERHEAD TRIM
PIECE ASSOCIATED WITH A DOORWAY
SUCH AS FOR ROTATABLY SUPPORTING A
GARMENT DURING STEAM CLEANING**

**CROSS-REFERENCE TO RELATED
APPLICATIONS**

This Application claims the benefit of U.S. Provisional Application 61/676,687 filed on Jul. 27, 2012, the contents of which are incorporated herein in its entirety.

FIELD OF THE INVENTION

The present invention generally describes a garment hanger. More specifically, the present invention teaches a combination bracket and garment hanger assembly such as which is capable of being secured to an overhead extending doorway trim piece for rotatably supporting a garment during such as steam cleaning. The hanger system and assembly contemplates a number of variants in which a spring loaded upper assembly is secured at the overhead supporting location and from which is suspended a garment in rotatable fashion. In combination, a separate and lower, typically weighted and engaging/tensioning, assembly is secured to the bottom of the garment and, with the upper assembly, facilitates any steam cleaning or like process for cleaning or de-wrinkling the garment.

BACKGROUND OF THE INVENTION

The prior art is documented with various types of clothing hangers, these suitably provided for hanging items of clothing. Shortcomings associated with known hanger designs include their unsuitability for assisting in dry or steam cleaning of clothing, such as which often requires both tensioning of the garment and the ability to easily rotate the same during the associated process.

SUMMARY OF THE INVENTION

The present invention discloses a hanger system including at least an upper assembly affixed to a vertically suspending location and which, typically in combination with a lower assembly, both supports and tensions a garment therebetween to assist in either or both of de-wrinkling or steam assisted cleaning of the garment. The upper assembly includes vertically repositionable upper and lower support surface (e.g. door jamb) engaging portions. A stem extends downwardly from the upper assembly and is linearly repositionable in order to adjust a height of a garment engaged by clips defined upon a lower width extending member of a triangular frame supported by the stem. The lower assembly includes an inverted triangular design with additional clips for securing lower edge extending locations of the garment and which is also weighted to facilitate the steam cleaning and de-wrinkling process.

BRIEF DESCRIPTION OF THE DRAWINGS

Reference will now be made to the attached drawings, when read in combination with the following detailed description, wherein like reference numerals refer to like parts throughout the several views, and in which:

2

FIG. 1 is a perspective view of the hanger system according to a first embodiment and which depicts both spring biased and supported upper assembly and lower tensioning/weighting assembly;

FIG. 2 is a plan view of the hanger system in FIG. 1 and depicting the upper and lower assemblies gripping a garment therebetween;

FIG. 3 is a side view of the system in FIG. 2;

FIG. 4 is a cutaway view taken along line 4-4 of FIG. 2 and illustrating the inner construction of the upper and lower assemblies for providing both elevated support to the garment stretched between the upper and lower assemblies;

FIG. 5 is a folded storage view in perspective of the upper assembly;

FIG. 6 is a front plan view of FIG. 5 and better showing the inter-articulating nature of the three triangular frame defining sides of the upper assembly arranged in their inter-pivoting and stored position;

FIG. 7 is a side view of FIG. 5;

FIG. 8 is a cutaway view taken along line 8-8 of FIG. 2 and showing better depicting the interior architecture of the upper assembly;

FIG. 9A is a cutaway corresponding to line 9-9 in FIG. 7 and showing a laterally biased detent built into a sliding disk component, the detent engaging with keyed recess location associated with an elongated inner stem extending downwardly from the upper assembly and which in this positions locks the stem in linear position relative to the upper assembly;

FIG. 9B is a succeeding view to FIG. 9A in which disk is inwardly compressed in order to unseat the detent from the keyed recess, thereby permitting vertical/linear repositioning of the inner stem relative to the fixed components of the upper assembly;

FIG. 10 is an exploded view of the system and assembly of FIG. 1;

FIG. 11 is a perspective assembly view of an upper hanger assembly according to a further potential embodiment;

FIG. 12 is a front view of the upper assembly in FIG. 11;

FIG. 13 is a rotated side view of the assembly in FIG. 11;

FIG. 14 is a linear cutaway taken along line 14-14 of FIG. 12 and showing the features of the laterally biased detent for effecting quick linear adjustment of the garment supporting stem, as well as the rotatable lever associated with an underneath engaging surface of the elevated support and which, in combination with the upper hook engaging surface, provides for quick dismounting of the hanger assembly from the elevated support location;

FIG. 15 is a perspective view of a variant of the upper hanger assembly in FIG. 11;

FIG. 16 is a front view of the assembly in FIG. 15;

FIG. 17 is a side view of the assembly in FIG. 15;

FIG. 18 is a linear cutaway taken along line 18-18 of FIG. 16 and depicting the interior configuration of the variant of FIG. 15 and which, corresponding to the cutaway of FIG. 14, illustrates another arrangement for providing a laterally biased detent for effecting quick linear adjustment of the garment supporting stem, as well as the rotatable lever associated with a side disposed surface of the elevated support and which, in combination with the upper hook engaging surface, provides for release of an inner supporting rod associated with a lower engaging surface for quick dismounting of the hanger assembly from the elevated support location;

FIG. 19 is an illustration in perspective of a further example of an alternately configured upper hanger assembly

3

with spring biased cushioning displacement in combination with elevated support location engagement and linear stem adjustability;

FIG. 20 is a variant of FIG. 19 exhibiting a different hanger supporting bottom stem configuration exhibited by a washer-like structure; and

FIG. 21 is an illustration of the hanger assembly of FIG. 1 in a shower rod supporting application.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

As previously described, the present invention teaches a hanger system and assembly for such as which is capable of being secured to an overhead extending doorway trim piece for rotatably supporting a garment during such as steam cleaning and other de-wrinkling procedures. The advantages of the bracket assembly include the ability to securely and controllably support a garment during cleaning or long periods of tensioning/stretching, such understood to be not limited to any specific type of cleaning process or procedure.

FIG. 1 is a perspective view of the hanger system according to a first embodiment, generally at 10, and which depicts both spring biased and supported upper assembly 12 and a lower tensioning/weighting assembly 14. As further shown in the plan view of FIG. 2, the upper 12 and lower 14 assemblies grip a garment, depicted at 2, therebetween through the provision of any plurality of upper 16 and lower 18 clips or biasing clamps, these further being constructed in any known fashion and of any suitable material exhibiting with an intermediate spring element disposed between a pair of outer jaws and which are biased in a closed and gripping condition about an edge location of the fabric associated with the garment 2. It is further understood that, while the lower assembly 14 is exhibited as a component of one variant of the system in which tensioning/stretching of the garment occurs, the present invention contemplates alternate variants in which only the upper assembly 12 may be utilized in order to securely and rotatably support the garment at an elevated support location.

As further best shown in FIG. 1, the lower suspending portion of the upper assembly includes a triangular shaped frame with a central member (defined as pivotally split halves 20 and 20') supporting the clamps 16 in spaced apart fashion and which are interconnected at opposite ends by a pair of angled side members 22 and 24, these converging at an upper end in a further pivotal support member 26, in turn defining a lower extending end of an elongated stem 28. As further shown in FIG. 10, a plurality of pivot pins 30, 32, and 34 are arranged in spaced apart fashion between the split halves 20 and 20' and the angled sides 22 and 24, with an upper pair of pins 36 and 38 pivotally supporting the upper converting ends of the angled sides 22 and 24 with the pivotal support member 26.

The lower assembly 14 likewise includes an inverted triangular shaped frame with an upper extending (typically split half) central member, see split halves 40 and 40', with a pair of angled side members 42 and 44. A like plurality of pivot pins are shown at 46, 48 and 50 defined at the inverted split portions 40 and 40' and the upper supported ends of the angled sides 42 and 44, with additional pivot pins 52 and 54 supporting lower converging ends of the angled sides 42 and 44 with pivotal locations associated with a lower miniature housing (defined by split halves 56 and 58 in FIG. 10).

In this manner, both the upper hanger assembly 12 and lower tensioning assembly 14 are inter-articulating and, in use can incorporate any press-pin or other suitable features

4

for collapsing each pivotal connection to permit the frames to be folded up for storage or portable transport, such as depicted in each of FIGS. 5-7 in reference to the upper assembly. As further shown in FIG. 10, a small weighted portion 60 can be seated within the housing and, in use, to provide the necessary degree of weighting/tensioning exerted upon the subassembly and the lower engaged ends of the garment 2, thereby stretching the same in the manner depicted in the reduced length views of FIGS. 2 and 3.

The upper assembly in the initial variant 12 of FIGS. 1-10 also includes an upper-most body which defines a housing 62 with a configured hook end 64 adapted for engaging an upper surface of a horizontal extending support location, such as a door jamb 4 as represented in each of FIGS. 4 and 8. As best shown in the cutaway of FIG. 8, the housing 62 includes an underneath accessible and threaded interior recess 65 extending through an open top 66.

A support bracket includes a bottom plate 68 with an annular recess 70 (see FIG. 10) defined therein, as well as having a perpendicularly extending and thin body seating profile 72 for seating within a recess 74 defined in the upper housing 62 in a vertically displaceable permitting manner as shown in FIG. 8. The bottom plate 68 further includes an embossed lip edge, at 76, for engaging the lower surface of the elevated door jamb 4 (again FIGS. 4 and 8).

A modified threaded bolt fastener includes a threaded shaft 78 and a modified head 80. As again best shown in the cutaway of FIG. 8, the shaft 78 is linearly recessed along its entire length, see inner radial wall 82, so that the stem 26 extends through its entirety and, depending upon the adjusted location of the stem relative to the upper housing, can range from projecting upwardly from the housing recess 66 in a most upwardly retracted position (FIG. 1) and in which a portion of the exteriorly threaded shaft 78 projects below the housing 62. The stem is further depicted lowered to an intermediate position (FIG. 8) in which a significant length of the stem 26 extends downwardly from the housing, as well as to a most-lowered position (not shown) in which the stem (along with its triangular frame and garment) is lowered to a maximum degree permitted by its construction.

As shown, the elongated stem 26 includes a plurality of keyed and annular extending recess locations, see at 84, 86, 88, 90 and 92 et seq., extending in linearly spaced intervals between a lower end and an upper most projecting end. A coil spring 94 can be provided and (is biased between the underside of the upper housing 62 and the upper surfaces of the bottom plate 68 in order to provide for quick release from the jamb 4 upon rotating the head 80 in a threaded loosening direction relative to the inner threaded profile of the housing within which the shaft 78 is inter-engaged. The spring 94 is an optional component for providing an additional biasing or cushioning aspect to the hanger assembly and is depicted in selected FIGS. 4, 8 and 10.

As previously indicated, the upper assembly provides for vertical lengthening/shortening adjustment of the stem 28 and which is enabled in part by the provision of a flattened disk or plate shaped detent 96 (see FIG. 10) in which is formed an inner aperture 98. The width wise interior architecture of the fastener head 80 is such that it is sufficiently hollowed to seat both a majority of the plate shaped detent 96 along with a biasing (e.g. coil) spring 100. The plate 96 is pre-positioned within the open interior of the fastener head 80 in a manner which permits the stem 28 to be pre-installed in upwardly displacing fashion a given distance through the interior of the bolt shaft 78, following which the biasing force of the coil spring 100 exerts a force on an end of the plate 96 so that its inner aperture (which is slot shaped

5

to exhibit a distance greater than the largest diameter of the stem 28) is exerted into a keyed recess engaging condition (see at 102 in FIG. 9A) thereby locking the stem in linear position relative to the upper assembly.

FIG. 9B is a succeeding view to FIG. 9A in which disk or plate 96 is inwardly compressed, see arrow 104, in a counter direction to the exerting force of the spring 100, thereby unseating the detent engaging location (again 102 in FIG. 9A) from the selected keyed recess 86. At this point, the stem 28 is permitted to be vertically/linearly repositioning in either up or down directions, see arrow 106, relative to the fixed components of the upper assembly, thus permitting the lower suspended hanger frame and associated garment to be raised or lowered. As further evident from the engaging architecture established between the spring detent and the stem, the design of the upper assembly is such that the stem 28 is permitted to be freely rotated at any vertically adjusted position.

Referring now to FIG. 11-13, a series of perspective assembly, front and rotated side views are generally depicted at 108 of an upper hanger assembly according to a further potential embodiment and which is utilized with a stem 28 and lower hanger frame assembly consistent with that previously described. As is additionally depicted in the linear cutaway of FIG. 14 taken along line 14-14 of FIG. 12, an alternately configured upper assembly housing 110 is provided and again includes a downwardly configured hook edge 112 for engaging an upper horizontal surface associated with the elevated/overhead door jamb 4 (see FIG. 14).

A rotatable lever 114 is secured to a forward vertical surface of the housing 110, via a pivotal defining pin 116. The lever exhibits an upper engaging surface 118 associated with an underneath extending surface of the elevated jamb 4 or other suitable support and which, in combination with the upper hook engaging surface 112, allows for the lever 114 to quickly rotate the seating surface 118 into engagement with the jamb 4 to either quickly mount or dismount the hanger assembly to and from the elevated support location. As further shown in FIG. 14, an inner most extending portion 120 of the pin 116 can be mounted to the housing 110 in either a fixed or (alternately) an height adjustable fashion for permitting resizing of a separation distance between the upper hook edge 112 and lower engaging surface 118 in order to accommodate different dimensioned elevated support surfaces (such as wider or narrower supports which vary from the standard width dimensions of an elevated jamb).

As again shown in FIG. 14, a vertical passageway (see inner radial wall 122) extends the entire height of the housing 110 and through which extends the stem 28. A variation of the laterally biased detent mechanism is provided and includes a plate shaped detent 124 similar to that previously depicted at 96 in FIG. 10 and which includes an inner defined slot 126 with biasing spring 128 for effecting quick linear adjustment of the garment supporting stem between succeeding keyed recessed locations 84, 86, 88, et seq.

Referring to FIGS. 15-17, a series of perspective, front and side views are depicted of a further variant 130 of the upper hanger assembly 108 in FIG. 11. A housing 132 is provided and again includes an upper and angled hook edge 134 for engaging the upper jamb 4 surface. A lower engaging plate support 136 includes an embossment 138 for engaging the underside jamb surface as shown in FIG. 18.

An inner support rod 140 (again FIG. 18) is integrally formed with and extends upwardly from the lower vertically adjustable plate 136 and is seated within a recessed verti-

6

cally interior 142 of the housing 132. A sideways located lever 144 (FIGS. 15-17) is pivotally secured to the housing 132 and rotatably engages an inner cam 146 (FIG. 18) between a first engaged position relative to the rod 140 (shown) and a second ninety degree rotated and release position in which the rod 140 is permitted to be vertically readjusted (see directional arrow 148) in order to adjust a separation distance between the lower jamb engaging embossed location 138 and the upper angled hook edge 134.

A laterally biased detent mechanism is again provided (see FIG. 18) and includes a plate shaped detent 150 with an inner defined slot 152 with biasing spring 154 for effecting quick linear adjustment of the garment supporting stem between succeeding keyed recessed locations 84, 86, 88, et seq. As further shown, the stem 28 extends through aligning apertures 156 defined in the lower plate 136 and at 157 in the body of the housing 132, this in order to facilitate both vertical adjustability of the stem 28 as well as to provide additional stabilizing and anti-pivoting support to the plate 136 in combination with the seating of the support rod 140 within the vertically recessed profile 142.

FIG. 19 is an illustration in perspective at 158 of a further example of an alternately configured upper hanger assembly and which provides the features of spring biased cushioning displacement in combination with elevated support location engagement and linear stem adjustability. In particular, a two piece housing includes an upper clamping member 160 with an upper angled and jamb surface engaging hook edge 162, a corresponding separate lower clamping member 164 exhibiting an upper projecting edge 166 for engaging an underside extending jamb or other suitable elevated support surface.

An elongated pedestal 168 exhibiting a keyed cross sectional profile 169 extends integrally from the lower clamping member 164 and upwardly through a mating keyed recess profile 170 defined in the upper clamping member 160 for accommodating a range of separation adjustability between the clamping members 160 and 164. The stem 28 extends through aligning apertures (not shown in this view) defined in spaced apart locations of the upper clamping member 160 and lower clamping member 164 relative to the vertically extending pedestal 168 and in order to provide stable bi-directional adjustability as indicated by arrow 172 as well as rotation of the stem 28 as further indicated by arrow 173.

A coil spring 174 seats about the stem 28 in separation biasing fashion between an underside seating surface of the upper clamping member 160 and a corresponding upper seating surface of the lower clamping member 164. A knob 176 is configured underneath the lower clamping member 164 and which can incorporate any suitable tab or slot or other structure for adjusting a separation distance between the jamb engaging surfaces of the clamping members.

A variation of the laterally biased detent mechanism is provided and includes a plate shaped detent 178 similar to that previously depicted at 96 in FIG. 10 which is laterally displaceably mounted within an open interior of the knob 176. As in previous embodiments, the detent 178 includes an inner defined slot (not shown) with biasing spring for effecting quick linear adjustment of the garment supporting stem between succeeding keyed recessed locations 84, 86, 88, et seq. Also shown is a conventional hanger 6 with upper hook engaging portion 8, this engaging a modified and arcuate support location 180 associated with a reconfigured lower portion 182 of the stem 28 according to the further variant.

7

FIG. 20 is a variant of FIG. 19, identical in most respects, and exhibiting a different hanger supporting bottom stem configuration, at 184, exhibited by a washer-like structure for receiving the hook engaging portion 8 of the conventional clothes hanger 6. Finally, FIG. 21 is an illustration of the hanger assembly of FIG. 1 in a shower rod 186 supporting application and in which only the downwardly configured curved hook end 64 is employed for supporting the assembly upon the upper arcuate support surface established by the horizontally extending support rod 186.

It is understood that the present invention is not limited to the specific construction of any of the previously described variants, and which are intended to be representative of a number of different potential configurations and constructions for providing the features of secure elevated support to the assembly, this combined with uninhibited rotation of the hanger and the ability to undertake quick height adjustment of the stem. Without limitation, each of the components integrated into the present assembly can exhibit any material construction, not limited to durable plastic, lightweight metal or the like.

It is also envisioned that the upper assembly can be further reconfigured to incorporate any resilient biasing material and/or be redesigned in order to provide for a biasing engagement of the upper and lower jamb surfaces without having to incorporate distance adjustability features. Additional variants can also include the stem being anchored in place within the housing, and or being linearly height adjustable through an intermediate bracket or other support slidably engageable with the housing. It is also envisioned that an additional miniaturized motor drive can be provided and which can be installed or otherwise integrated into the upper assembly to facilitate constant and non-manual rotation of the stem and hanger support.

Advantages and other features provided by the hanger system include each of the ability to quickly and efficiently steam clean one or more garments at a time, the retractability/portability of the device when traveling (again FIGS. 5-7), as well as the ability to support the assembly upon a door frame or shower rod with the adjustable clamping structure, such as in particular for fitting various door frame sizes. Additional advantages include the assembly being rotatable a full 360° which removes much of the effort of moving and repositioning garments in conventional ironing operations.

The lower hanger assembly further provides for maintaining the garment in a straight and wrinkle free inducing condition. The combination of the upper and lower hanger assemblies further optimizes the application of the present system to other non-traditional garment stem cleaning operations in use with pillow cases, sheets, curtains and the like.

Having described my invention, other and additional preferred embodiments will become apparent to those skilled in the art to which it pertains, and without deviating from the scope of the appended claims.

I claim:

1. A system for rotatably supporting a garment, comprising:
 - a housing configured for suspending from an elevated support;
 - said housing further having an upper clamping member exhibiting an upper engaging hook edge, a separate lower clamping member exhibiting an upper projecting edge for collectively engaging the upper and lower surfaces of the elevated support;

8

an elongated pedestal exhibiting a keyed cross sectional profile extending integrally from said lower clamping member upwardly through a mating keyed recess profile defined in said upper clamping member for accommodating a range of separation adjustability between said clamping members;

- a stem extending downwardly from said housing, said stem being freely rotatable and terminating in a lower hanger supporting portion for retaining the garment; and
- a detent mechanism integrated into said lower clamping member for linear adjustment of said stem between a plurality of succeeding keyed recessed locations defined therealong.

2. The system as described in claim 1, said lower hanger supporting portion further comprising a triangular frame defining hanger including a pair of angled side members and a bottom extending and interconnecting member, a plurality of clamps arranged in spaced apart fashion along said bottom extending member and which are configured for engaging the garment.

3. The system as described in claim 2, said bottom extending member further comprising first and second split halves which are pivotally interconnected, a plurality of additional pivot locations established at each of opposite interconnecting ends of said angled side members to facilitate fold-up storage of said hanger supporting portion.

4. The system as described in claim 2, said housing, stem and lower hanger supporting portion further comprising an upper assembly, a lower assembly being provided and including an inverted triangular frame defining hanger with a further plurality of clamps arranged in spaced apart fashion and configured for engaging spaced apart bottom locations of the garment.

5. The system as described in claim 4, further comprising a weighted portion supported upon said lower assembly adapted for tensioning the garment.

6. The system as described in claim 1, said stem extending through aligning apertures defined in spaced apart locations of said upper and lower clamping members to provide stable bi-directional adjustability.

7. The system as described in claim 6, further comprising a coil spring seating about said stem in separation biasing fashion between an underside seating surface of said upper clamping member and a corresponding upper seating surface of said lower clamping member.

8. A system for supporting a garment in suspended and tensioned fashion during steam cleaning, said system comprising:

an upper assembly adapted to engage a horizontal extending surface of an overhead door jamb;

the horizontal extending surface of the overhead door jamb further including upper and lower extending surfaces, said upper assembly further having an upper clamping member exhibiting an upper engaging hook edge adapted to engage the upper extending surface, a separate lower clamping member exhibiting an upper projecting edge adapted to collectively engage the lower extending surface;

an elongated pedestal exhibiting a keyed cross sectional profile extending integrally from said lower clamping member upwardly through a mating keyed recess profile defined in said upper clamping member for accommodating a range of separation adjustability between said clamping members;

a stem rotationally supported by and extending downwardly from said upper assembly;

9

a first triangular shaped hanger extending from said stem and having a first pair of angled side members and an interconnecting bottom and horizontal extending first central member, a first plurality of clamps positioned along said first central member and which are adapted to engage upper end locations of the garment; and

a second inverted triangular shaped hanger having a second pair of angled side members and an interconnecting upper and horizontal extending second central member, a second plurality of clamps positioned along said second central member of said second hanger and which are adapted to engage lower end locations of the garment.

9. The system as described in claim 8, said first and second central members of said first and second hangers each further comprising split portions for collapsing said hangers during storage.

10. The system as described in claim 8, further comprising a weighted portion supported upon said second inverted hanger and adapted for tensioning the garment.

11. The system as described in claim 8, said stem extending through aligning apertures defined in spaced apart locations of said upper and lower clamping members to provide stable bi-directional adjustability.

12. The system as described in claim 8, further comprising a coil spring seating about said stem in separation biasing fashion between an underside seating surface of said upper clamping member and a corresponding upper seating surface of said lower clamping member.

13. The system as described in claim 8, further comprising a detent mechanism integrated into said lower clamping member for linear adjustment of said stem between a plurality of succeeding keyed recessed locations defined therealong.

10

14. A system for supporting a garment in suspended and tensioned fashion during steam cleaning, said system comprising:

an upper assembly adapted to engage a horizontal extending surface of an overhead door jamb;

the horizontal extending surface of the overhead door jamb further including upper and lower extending surfaces, said upper assembly further having an upper clamping member exhibiting an upper engaging hook edge adapted to engage the upper extending surface, a separate lower clamping member exhibiting an upper projecting edge adapted to collectively engage the lower extending surface;

a stem rotationally supported by and extending downwardly from said upper assembly;

said stem extending through aligning apertures defined in spaced apart locations of said upper and lower clamping members to provide stable bi-directional adjustability;

a first triangular shaped hanger extending from said stem and having a first pair of angled side members and an interconnecting bottom and horizontal extending first central member, a first plurality of clamps positioned along said first central member and which are adapted to engage upper end locations of the garment; and

a second inverted triangular shaped hanger having a second pair of angled side members and an interconnecting upper and horizontal extending second central member, a second plurality of clamps positioned along said second central member of said second hanger and which are adapted to engage lower end locations of the garment.

* * * * *